

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 September 2005 (29.09.2005)

PCT

(10) International Publication Number
WO 2005/091063 A1

(51) International Patent Classification⁷: G02F 1/1335

(21) International Application Number:
PCT/KR2005/000795

(22) International Filing Date: 18 March 2005 (18.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10-2004-0019001 19 March 2004 (19.03.2004) KR

(71) Applicant (for all designated States except US): KOLON
IND. INC./KR [KR/KR]; 1-23 Byeoryang-dong,
Gwachon-si, Gyeonggi-do 427-709 (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): KIM, Hyun
Jin [KR/KR]; Hyundai Morningside 2-cha 105-1506,
Bora-ri, Giheung-eup, Yongin-si, Gyeonggi-do 449-583
(KR). PARK, Jong Min [KR/KR]; Ubangsan Maeul
Apt. 505-301, Hoge-dong, Dongan-gu, Anyang-si,
Gyeonggi-do 431-080 (KR). KIM, Chang Gun [KR/KR];
Hyundai Hometown Apt. 210-904, Sanghyun-dong,

Yongin-si, Gyeonggi-do 449-520 (KR). KIM, Ji Seong
[KR/KR]; 212-4 Jamsilbon-dong, Songpa-gu, Seoul
138-863 (KR). JUNG, Woo Chul [KR/KR]; 604-2
Mok3-dong, Yangcheon-gu, Seoul 158-811 (KR).

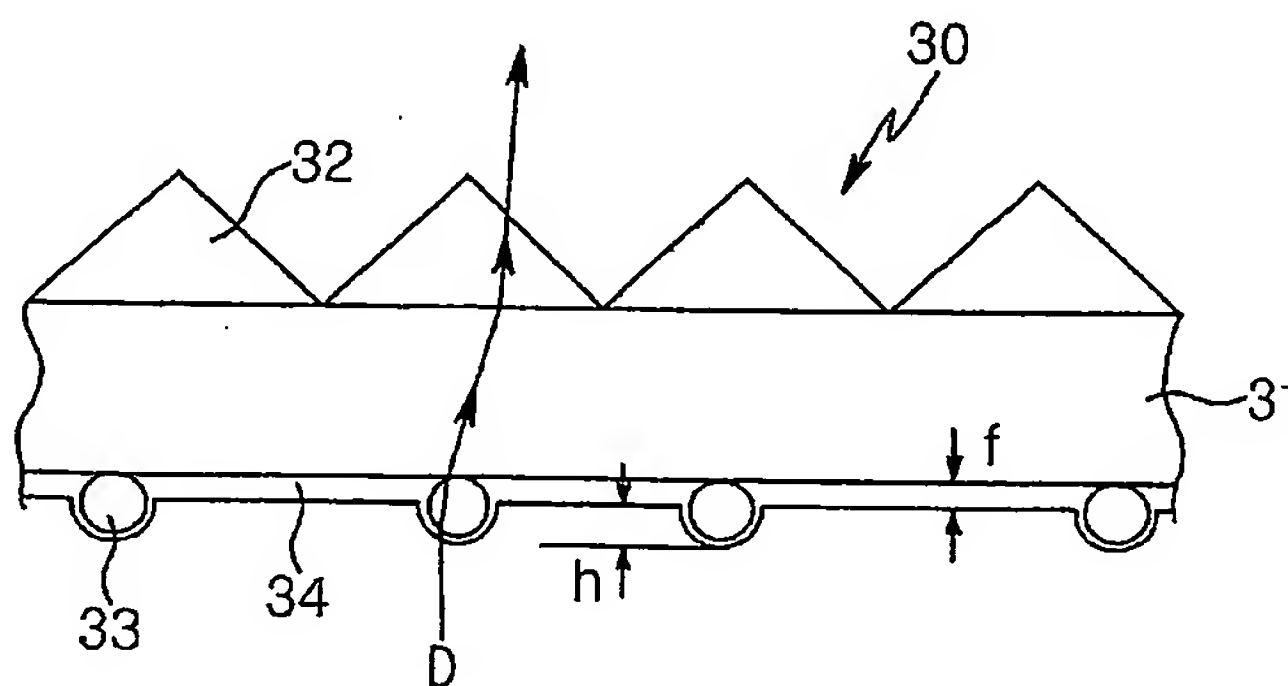
(74) Agent: MYUNG MOON IP & LAW FIRM; 4F Shin-
won Bldg., 648-15 Yeoksam-dong, Gangnam-gu, Seoul
135-911 (KR).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,
MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH,
PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: TRANSPARENT OPTICAL FILM COMPRISING DAMAGE PREVENTION LAYER HAVING PARTICLES DIS-
TRIBUTED THEREIN



(57) Abstract: Disclosed herein is a transparent optical film, including an optically structured layer, which is a sheet formed of a transparent polymeric material and composed of a first surface having three-dimensional structures thereon and a second surface opposite the first surface, and a damage prevention layer formed on the second surface of the optically structured layer and composed of a transparent polymeric material and spherical organic or inorganic particles. The damage prevention layer has protruding surface portions formed by the particles protruding from the transparent polymeric material. The optical film of the current invention is advantageous because the prism structure and the opposite surface of the optical film are prevented from damage due to external impact, vibration and friction, and the attachment of impurities due to frictional static charges is prevented. Further, the front luminance and optical properties of the optical film are improved.

WO 2005/091063 A1



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*